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ABSTRACT OF THE DISCLOSURE

A guided stage mechanism suitable for supporting a reticle in a photolithography machine includes a stage movable in the X-Y directions on a base. Laterally surrounding the stage is a rectangular window frame guide which is driven in the X-axis direction on two fixed guides by means of motor coils on the window frame guide cooperating with magnetic tracks fixed on the base. The stage is driven inside the window frame guide in the Y-axis direction by motor coils located on the stage cooperating with magnetic tracks located on the window frame guide. Forces from the drive motors of both the window frame guide and the stage are transmitted through the center of gravity of the stage, thereby eliminating unwanted moments of inertia. Additionally, reaction forces caused by the drive motors are isolated from the projection lens and the alignment portions of the photolithography machine. This isolation is accomplished by providing a mechanical support for the stage independent of the support for its window frame guide. The window frame guide is a hinged structure capable of a slight yawing (rotational) motion due to hinged flexures which connect the window frame guide members.